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Abstract

An object of the present invention is to provide an apparatus generating a magnetic field, named "superconducting permanent magnet apparatus," that magnetize bulk superconductors into pseudo-permanent magnets, which offer a large, usable space having a strong magnetic field. A superconducting permanent magnet apparatus 11 according to this invention comprises: (1) a magnetic pole assembly 13 that holds in a thermally insulated condition, a composite bulk 22 composed of a plurality of bulk superconductors 21 which are arranged in parallel with each other within a vacuum vessel 15, (2) a stand 12 that (i) holds at least a plurality of said magnetic pole assemblies 13 each in a predetermined orientation, and (ii) is movable in a condition that said magnetic pole assemblies 13 are mounted thereon, (3) a cooling part 29 of a freezer 18 being mounted on said magnetic pole assembly 13, (4) a vacuumizing apparatus being a vacuum pump connected to said magnetic pole assembly 13 via a vacuum pipe, (5) said composite bulk 22 in said vacuum vessel 15 being fixed to a flange 24 of said magnetic pole assembly 13 — to which said vacuum vessel 15 is fixed — using a resin-based structural member 23 having a heat-insulating property.